WHAT IS CLAIMED IS :

1) A method of detecting degradation of a rope comprising a plurality of ferromagnetic cord members, said method comprising

applying a magnetic field to a portion of said cord members;

monitoring magnetic flux associated with said magnetic field; and

identifying locations along said cord members exhibiting magnetic flux leakage, wherein said locations are indicative of degradation.

2) A method according to claim 1, wherein

said magnetic field is applied by relative movement between said rope and a magnet.

3) A method according to claim 1, wherein

said rope comprises a body of non-ferromagnetic insulator material having a generally rectangular cross-section in which said plurality of ferromagnetic cord members are distributed and extend longitudinally therewith.

4) A method of detecting and locating degradation of a rope comprising a plurality of ferromagnetic cord members, said method comprising

causing said rope to move at a known rate relative to a magnet in order to apply a magnetic field to a portion of said cord members;

monitoring magnetic flux associated with said magnetic field as a function of time; and

identifying points in time in which said cord members exhibit magnetic flux leakage, wherein said points in time are indicative of the location of rope degradation.

5) A method for approximating tension-load bearing capacity of a rope comprising a plurality of ferromagnetic cord members, said method comprising

applying a magnetic field to a portion of said cord members;

measuring magnetic flux associated with said magnetic field; and

comparing said measured magnetic flux leakage to predetermined data indicative of tension-load bearing capacity.

6) A method of detecting and locating degradation of a rope comprising a plurality of ferromagnetic cord members, said method comprising

applying a magnetic field to a portion of said cord members;

monitoring magnetic flux associated with said magnetic field;

identifying locations along each individual cord member exhibiting magnetic flux leakage, wherein said locations are indicative of degradation; and

correlating said locations indicative of degradation of individual cord members with respect to each other to determine relative locations of each.

7) A method according to claim 3, further comprising

measuring the magnitude of said magnetic flux leakage.

8) A method according to claim 4, further comprising

measuring the magnitude of said magnetic flux leakage.

9) A method according to claim 6, further comprising

measuring the magnitude of said magnetic flux leakage.

10) An apparatus for detecting and locating degradation of a rope having at least one ferromagnetic component, said apparatus comprising

a body comprising rope guide means for guiding said rope along said body;

a magnet fixed with respect to said body for establishing a magnetic field adjacent to said body;

magnetic flux sensing means mounted with respect to said body for monitoring magnetic flux associated with said magnetic field; and

means for correlating said magnetic flux with said rope to determine one or more locations of degradation.

11) An apparatus according to claim 10, wherein

said rope comprises a plurality of ferromagnetic cord members.

12) An apparatus according to claim 11, wherein said magnetic flux sensing means comprise a plurality of magnetic flux sensors mounted to said body.

13) An apparatus according to claim 12, wherein said magnetic flux sensors comprise Hall effect transducers.

14) An apparatus according to claim 12, wherein said plurality of magnetic flux sensors each correspond to one of said ferromagnetic cord members such that each magnetic flux sensor monitors the magnetic flux of a respective one of said cord members.

15) An apparatus according to claim 14, further comprising control means for correlating the magnetic flux detected by each of said magnetic flux sensors.

16) An apparatus according to claim 14, wherein said plurality of magnetic flux sensors are positioned with respect to said body so that they remain on one side of said rope when it is guided along said body.

17) An apparatus according to claim 14, wherein said plurality of magnetic flux sensors are positioned with respect to said body so that they are on opposing sides of said rope when it is guided along said body.

18) An apparatus according to claim 10, further comprising means for mounting said apparatus in an elevator assembly in such a manner as to enable it to engage an installed elevator rope with said rope guide means for detecting and locating degradation of said elevator rope.

19) An apparatus according to claim 10, further comprising means for mounting said apparatus to an elevator hoist machine assembly in an elevator assembly in such a manner as to enable it to engage an installed elevator rope with said rope guide means for detecting and locating degradation of said elevator rope.

20) An apparatus according to claim 10, wherein said apparatus is a self-contained, portable unit adapted to be transported to and from an elevator assembly for use therewith to enable it to engage an installed elevator rope with said rope guide means for detecting and locating degradation of said elevator rope.

21) A method for approximating the tension-load bearing capacity of an elevator rope comprising an electrically-conductive, tension-bearing component, said method comprising

applying an electric current through said elevator rope ;

determining electrical resistivity of said elevator rope ; and

comparing said resistivity to predetermined data indicative of tension-load bearing capacity of said elevator rope.

22) A method according to claim 21, further comprising connecting current input and current output leads at dead-end hitch points, respectively, of said elevator rope in an elevator assembly.

23) A method according to claim 21, wherein said electrically-conductive component is a tension-bearing cord in an elevator rope, wherein said tension-bearing member supports the load of the elevator car.

24) A method according to claim 21, wherein said elevator rope further comprises a non-conductive insulating jacket generally surrounding said electrically-conductive, tension-bearing component.

25) A syst m for approximating tension-load bearing capacity of an elevator rope having two fixed ends in an elevator assembly and comprising an electrically-conductive component, said system comprising

means for applying electric current through a section of said elevator rope ;

means for measuring electrical resistivity of said elevator rope ; and

means for correlating said measurement of said resistivity to predetermined data indicative of tension-load bearing strength of said elevator rope.

26) A system according to claim 25, wherein

said electrically-conductive component is a tension-bearing member cord in an elevator rope, wherein said tension-bearing member supports the load of the elevator car.

27) A system according to claim 25, wherein

said elevator rope further comprises a non-conductive insulating jacket generally surrounding said electrically-conductive, tension-bearing component.

28) A system according to claim 25, wherein

said electrically-conductive, tension-bearing component of said elevator rope comprises a plurality of cords embedded within and running longitudinally along the length of said elevator rope for supporting the load of an elevator car; and

said means for applying electric current through a section of said elevator rope engage each of said cords to apply electric current therethrough.

29) A system according to claim 25, further comprising

means for engaging said two fixed ends of said elevator rope for applying said electric current through said elevator rope.

30) A system according to claim 25, further including

m ans for comparing said m asurement of said resistivity for each cord with the others and determining the relativ tension-load bearing strengths of each with respect to the others.

31) A system according to claim 28, wherein

said elevator rope further comprises a non-conductive insulating jacket generally surrounding said plurality of cords.

32) A monitoring system for monitoring the level of excitation of an elevator rope having a load-bearing element that supports the tension loads of the elevator system and a jacket that encompasses the load-bearing element, said monitoring system comprising

excitation means for exciting said load-bearing element in a manner such that said jacket is not subject to excitation; and

monitoring means for monitoring the level of excitation of said load-bearing element.